

Airport Research Facility Braunschweig
(ARF-BWE)

Installation Status of MLAT and WAM at Braunschweig Airport after RWY extension



Deutsches Zentrum
für Luft- und Raumfahrt e.V.
in der Helmholtz-Gemeinschaft

Geneva 2014-05-20

History

- The Airport is located in the northern part of Braunschweig
- It was founded 1935
- It opens on 18th May 1936 with a first approach of a Heinkel H70 of DLH
- Direct flight connections to Berlin, Halle and Hannover
- RWY-Dimension was 1600x1000m grass surface up to 14t weight load
- Closed in between 1945 and 1955
- 1976 the runway changed from grass to concrete tarmac 1600 x 45m
- A parallel grass runway kept open (900 x 30m)
- 2010 the runway extension up to 2300m started and was finalised in summer 2012
- The official opening of the new RWY was in October 2012
- In August 2013 the northern apron area was extended by approximately 100%



Facts

- Airport Braunschweig-Wolfsburg GmbH
 - City of Braunschweig: 43 %
 - Own interest: 36 %
 - City of Wolfsburg: 18 % (due to the automobile manufacture VW, Skoda, Audi)
- EDVE: 52 19 09 N 295 ft and 10 33 22 E
- Runway 08/26 concrete 2.300 x 45 m North
- 08/26 Gras, 900 x 30 m South
- Threshold-distance: 1.200 m
- Radar from Hannover till 300ft, VOR, DME, ILS I
- Opening: Monday to Friday: 7:00 - 22:00
Sa, So, and public holidays : 8:00 - 17:45
- Controlled by Austro Control
- Business flights, Charter flights, VW



The Airport imbedded in the whole Area

- Research Airport Braunschweig GmbH
 - German Aerospace Center (DLR)
 - Technical University of Braunschweig
 - Civil Aviation Authority (CAA):
Luftfahrt-Bundesamt (LBA)
 - Governmental Flight Accident
Investigation: Bundesstelle für
Flugunfalluntersuchung (BFU)
 - Approximately 20 companies
 - Several Associations
 - Approximately 4000 employees
- ➔ One significant engine of the region



Impressions during Airport Construction Time



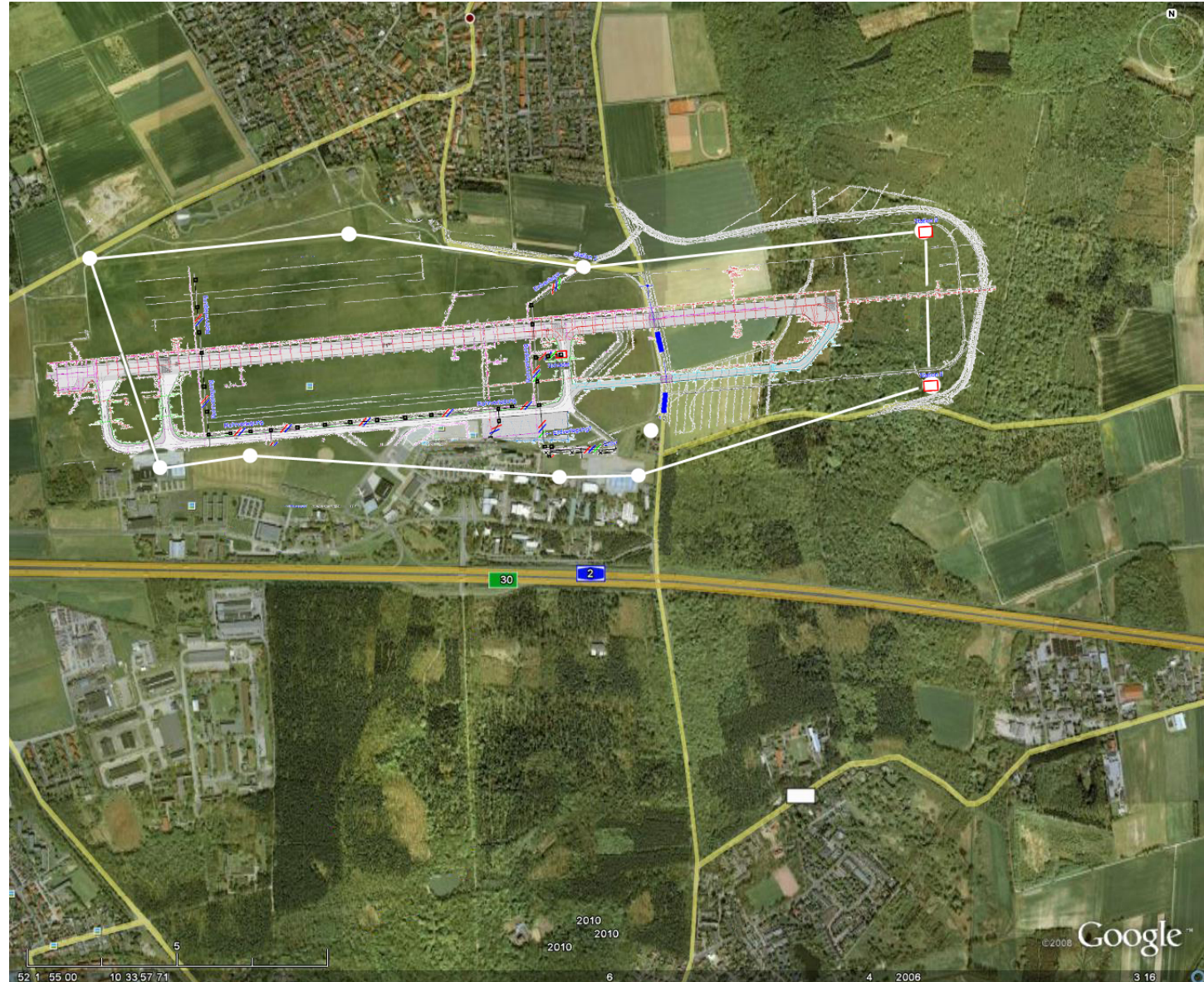
Runway Extension and MLAT Status (1/3)



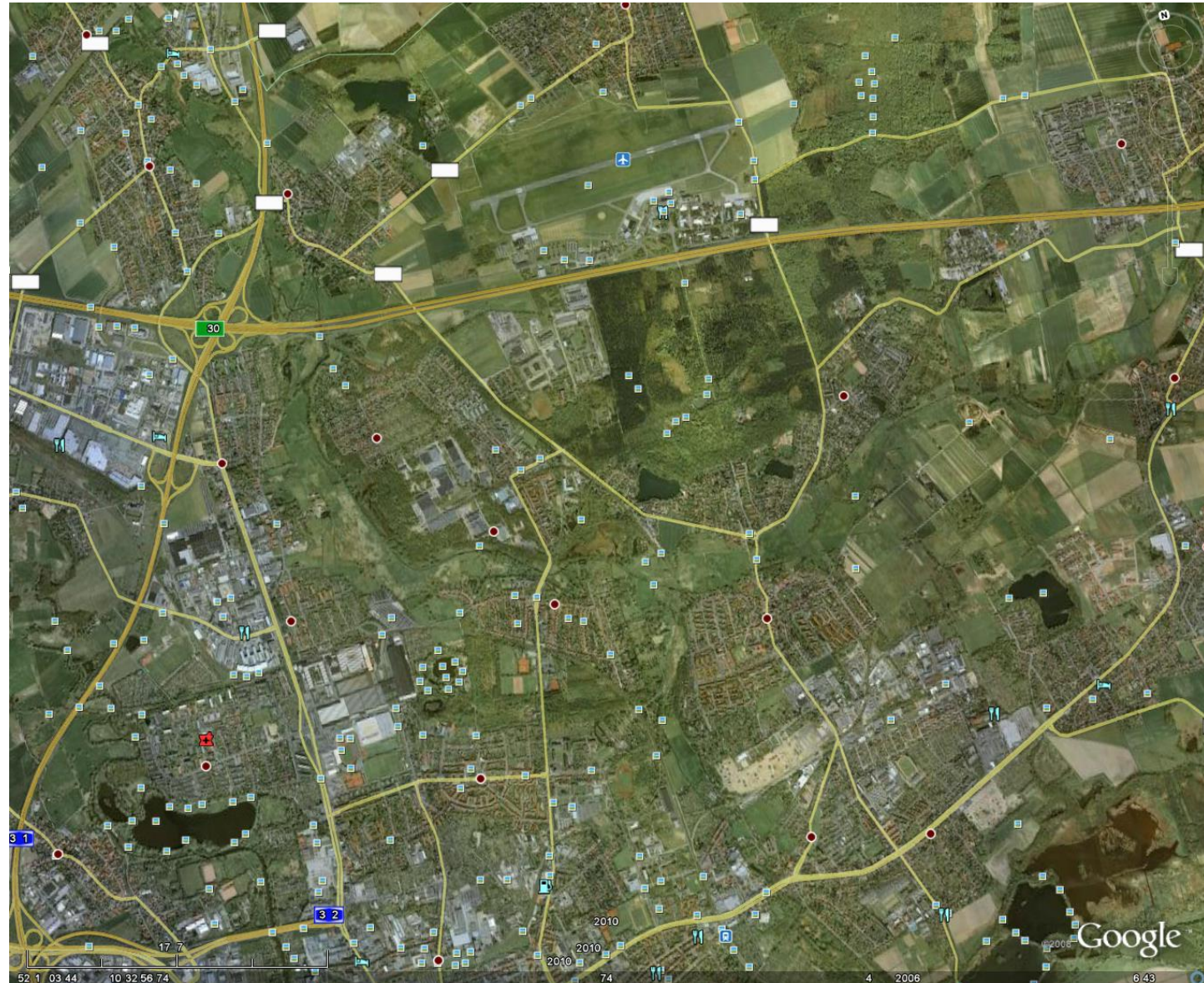
Runway Extension and MLAT Status (2/3)



Runway Extension and MLAT Status (3/3)



WAM (1/3)



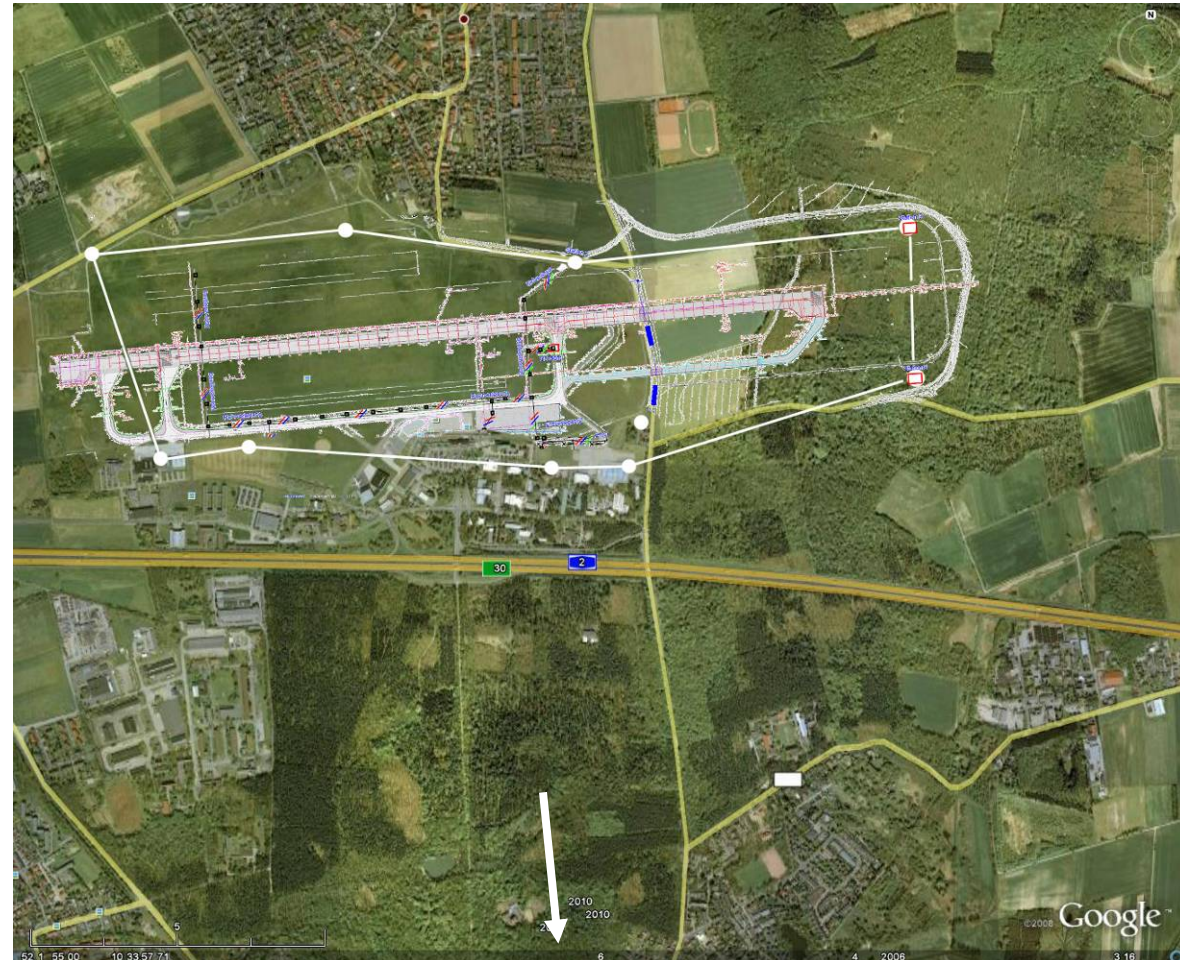
WAM (3/3)



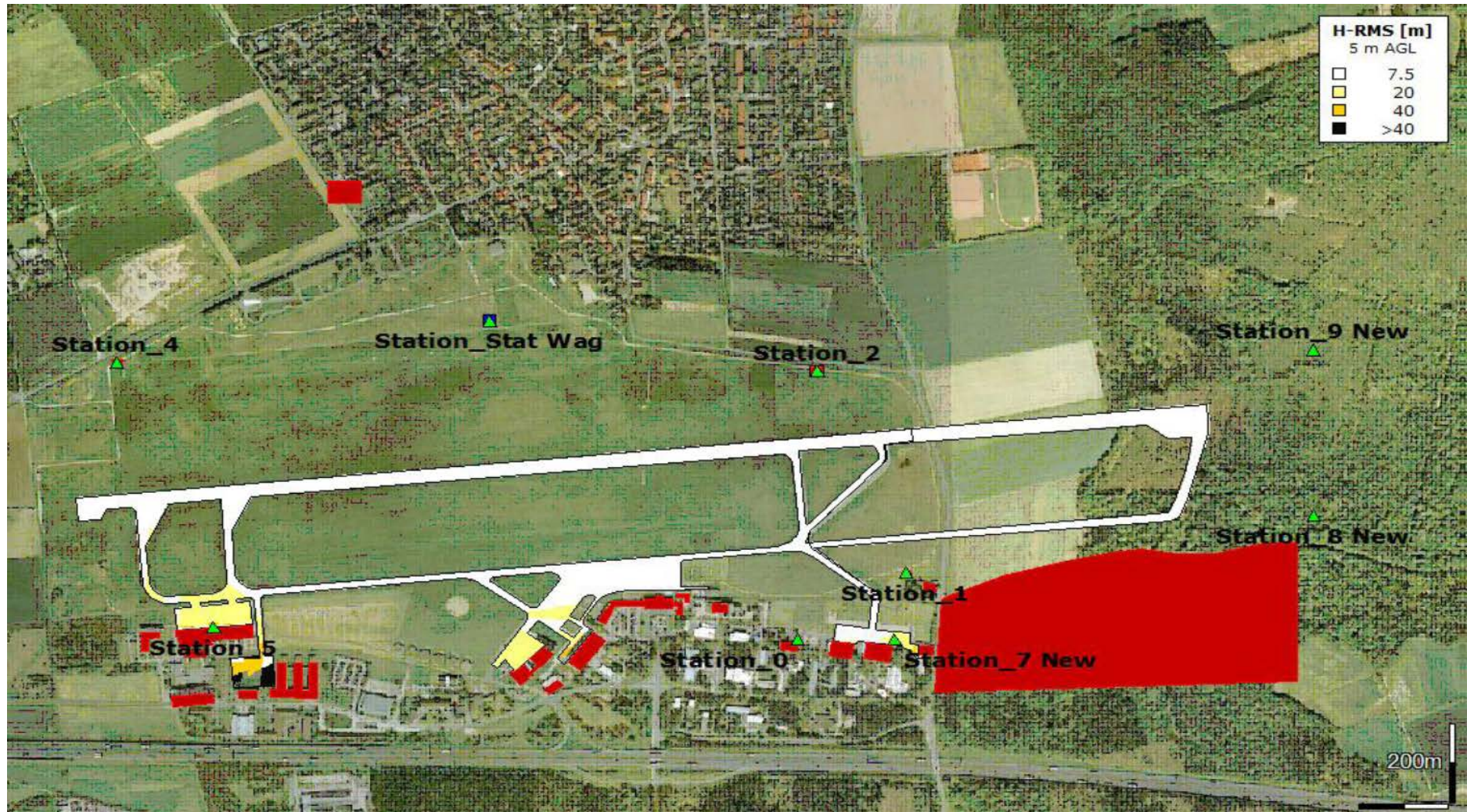
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Status:

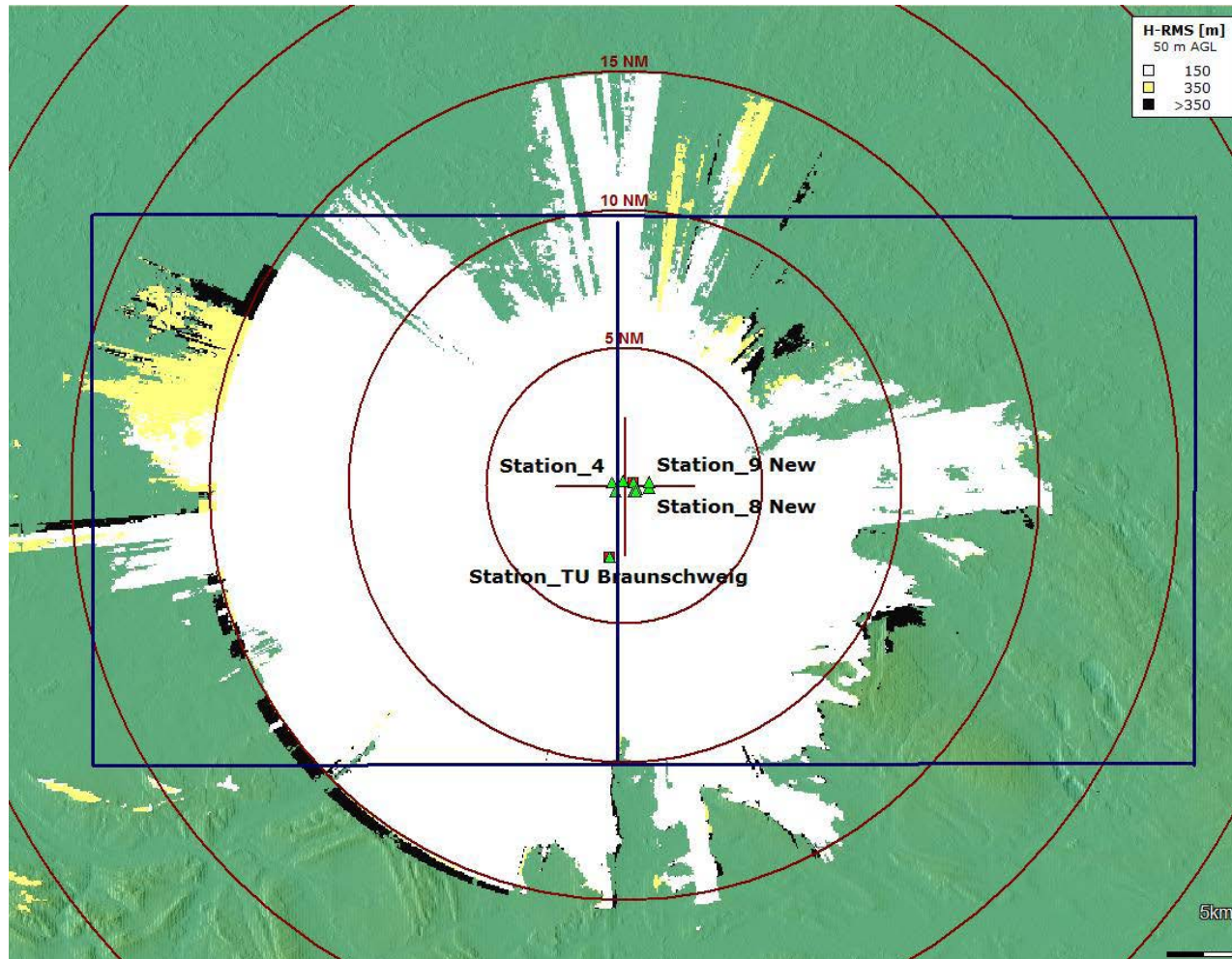
- Complete MLAT coverage of
 - both RWYs,
 - all TWYs
 - DLR apron
- Complete WAM coverage
 - 300m altitude / 25NM radius
 - 50m altitude / 10NM radius
- GBAS CAT I Station
- ADS-B station (DFS)



MLAT Coverage



WAM Coverage within 50m Altitude:



Minimum Separation < 1,5NM

Position Accuracy TMA < 150m

Update TMA < 2sec

Probability of detection > 97%

False target reports < 0,1%

Research Infrastructure – From Theory to Implementation



Concept- Definition
and -Evaluation
in Simulation

***DLR
Braunschweig***

Technical
Verification
On Site

***Research Airport
Braunschweig***

Operational
Validation/Shadow Mode
On Site

***Airport Research
Facility Hamburg***